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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/555,045	10/28/2005	Hiroaki Nagaoka	450100-05489	2317
7590 William S Frommer Frommer Lawrence & Haug 745 Fifth Avenue New York, NY 10151			EXAMINER REGO, DOMINIC E	
			ART UNIT 2618	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			03/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/555,045

Applicant(s)

NAGAOKA ET AL.

Examiner

Dominic E. Rego

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7, 10-13, 16 and 17 is/are allowed.
- 6) ☒ Claim(s) 8, 9, 14, 15, 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/28/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 9 is objected to because of the following informalities: there is a period "." after "according to claim 8" which should be comma ",". Appropriate correction is required.

Information Disclosure Statement

2. The information disclosure statement filed 10/28/2005 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the abstracts of "Foreign Documents "JP 2003-304195, JP 203-298509, JP 2003-188817, JP 2001-136152, JP 2000-138655, JP 11-154927, JP 10-41919, JP 2004-349941" are not in English, these documents cannot be considered. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US Patent Application Publication #20050025100) in view of Viero et al. (US Patent Application Publication #2004/0109492).

Regarding claim 8, Lee teaches a transmission electric power control method of controlling a maximum transmission electric power during transmission of a plurality of signals in a code-multiplexing fashion (Paragraph 0102),

wherein code multiplexing (Figure 4, elements 401,415,417) is used to transmit signals from a first transmission channel (DPDCH) to transmit data, a second transmission channel (DPCCH) to transmit main control information, and a third transmission channel (HS-DPCCH) to transmit additional control information (Figure 4), except said method comprising the steps of:

checking a requested transmission electric power; and when a requested transmission electric power is greater than or equal to a threshold value close to a maximum transmission electric power, clipping a transmission signal using a base band at a plurality of levels in accordance with magnitude of a requested transmission electric power.

However, in related art, Viero teaches method comprising the steps of: checking a requested transmission electric power; and when a requested transmission electric power is greater than or equal to a threshold value close to a maximum transmission electric power, clipping a transmission signal using a base band at a plurality of levels in

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accordance with magnitude of a requested transmission electric power (Paragraphs 0032 and 0046).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Viero to Lee, in order to prevent peak power re-growth and distortion.

Regarding claim 18, the combination of Lee and Viero teach all the claimed elements in claim 8. In addition, Lee teaches the transmission electric power control method, wherein said transmission electric power control method is used for a mobile device (Figure 2, UE 112) and said additional control information (Figure 4, HS-DPCCH) is equivalent to mobile device's reception quality information transmitted to a base station (Figure 2, NODE B 110) by a mobile device (Figure 2, UE 112) so as to improve a data transmission rate from a base station to a mobile device and/or a reception determination result of received data (Paragraphs 0012-0014, 0050, and 0059).

5. Claims 9, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US Patent Application Publication #20050025100) in view of Viero et al. (US Patent Application Publication #2004/0109492) and further in view of Kurihara (US Patent #7,023,897).

Regarding claim 9, the combination of Lee and Viero teach all the claimed elements in claim 8. In addition, Lee teaches the transmission electric power control method wherein first (402), second (416), and third (418) gain factors are used to weight

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signals from said first (DPDCH), second (DPCCH), and third (HS-DPCCH) transmission channels, except for values of said first, second, and third gain factors are converted so as to normalize an output power value for a transmission signal of said base band.

However, in related art, Kurihara teaches values of said first, second, and third gain factors are converted so as to normalize an output power value for a transmission signal of said base band (Col 11, lines 19-40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Kurihara to Lee and Viero, such that the ratio of the logic values of gain factors remains unchanged regardless of the combination of the gain factors.

Regarding claim 14, Lee teaches a transmission electric power control apparatus for controlling a maximum transmission electric power during transmission of a plurality of signals in a code-multiplexing fashion (Paragraph 0102), said apparatus comprising:

first spreading means (401) for providing a first spreading process to signals from a first transmission channel (Figure 4, DPDCH) to transmit data, a second transmission channel (DPCCH) to transmit main control information (Figure 4, a second transmission channel DPCCH to transmit main control information to second spreading means 415), and a third transmission channel (HS-DPCCH) to transmit additional control information (Figure 4, a third transmission channel HS-DPCCH to transmit additional control information to third spreading means 417);

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weighting means (Figure 4, elements 402, 416, and 418) for weighting signals from said first, second, and third transmission channels after said first spreading process with first, second, and third gain factors, respectively;

complex mapping means (Figure 4, element 414) for complex-mapping said weighted signals from channels;

second spreading means (Figure 4, element 421) for providing a second spreading process to output from said clipping means;

digital-analog conversion means (Figure 4, element 422) for converting output from said filter into an analog signal;

modulation means (Figure 4, element 423) for providing a specified modulation process to output from said digital-analog conversion means;

However, in related art, Kurihara teaches a filter (Figure 7, element 40) for limiting a band for output from said second spreading means (Figure 7, element 30; Col 1, lines 23-62);

automatic gain control means (Figure 7, element 6) for controlling an amplification gain with respect to output from said modulation means (Col 8, line 58-col 10, line 12: Kurihara teaches an AGC amplifier 6 serving as a amplifying means for amplifying the HPSK signal output from the quadrature modulator 50 with a gain based on a control voltage and outputting the amplified signal);

electric power amplification means for electrically amplifying output from said automatic gain control means (Col 8, line 58-col 10, line 12: Kurihara teaches an AGC amplifier 6 serving as a amplifying means for amplifying the HPSK signal output from

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the quadrature modulator 50 with a gain based on a control voltage and outputting the amplified signal).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Kurihara to Lee, in order to transmit modulated signal to other units or system and keep power of the transmission signal output from the quadrature modulator constant.

The combination of Lee and Kurihara teach all the claimed limitations in claim 14, except for clipping means for clipping output from said complex mapping means to a specified level; main control means for controlling said clipping means so as to clip output from said complex mapping means complex mapping means at a plurality of levels according to magnitude of a requested transmission electric power when said power is greater than or equal to a threshold value close to a maximum transmission electric power.

However, in related art, Viero teaches clipping means for clipping output from said complex mapping means to a specified level; main control means for controlling said clipping means so as to clip output from said complex mapping means complex mapping means at a plurality of levels according to magnitude of a requested transmission electric power when said power is greater than or equal to a threshold value close to a maximum transmission electric power (Paragraphs 0032 and 0046).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Viero to Lee and Kurihara, in order to prevent peak power re-growth and distortion.

Regarding claim 15, the combination of Lee, Kurihara and Viero teach all the claimed elements in claim 12. In addition, Kurihara teaches the transmission electric power control apparatus, wherein said main control means converts values of said first, second, and third gain factors so as to normalize an output power value for said complex mapping means (Col 11, lines 19-40).

Allowable Subject Matter

6. Claims 1-7, 10-13, 16, and 17 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, the prior art of record, specifically Lee teaches a transmission electric power control method of controlling a maximum transmission electric power during transmission of a plurality of signals in a code-multiplexing fashion (Paragraph 0102), wherein, when code multiplexing (Figure 4, elements 401, 415, 417) is used to transmit signals from a first transmission channel (Figure 4, DPDCH) to transmit data, a second transmission channel (DPCCH) to transmit main control information, and a third transmission channel (HS-DPCCH) to transmit additional control information and when first (402), second (416), and third (418) gain factors are used to weight signals from said first, second, and third transmission channels (Figure 4).

However, none of the prior art cited alone or in combination provides the motivation to teach a maximum transmission electric power is decreased at a plurality of

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levels based on a ratio between said first and second gain factors and a ratio between said second and third gain factors.

Regarding claim 4, the prior art of record, specifically Lee teaches a transmission electric power control method of controlling a maximum transmission electric power during transmission of a plurality of signals in a code-multiplexing fashion (Paragraph 0102),

wherein code multiplexing (Figure 4, elements 401,415,417) is used to transmit signals from a first transmission channel (Figure 4, DPDCH) to transmit data, a second transmission channel (DPCCH) to transmit main control information, and a third transmission channel (HS-DPCCH) to transmit additional control information.

However, none of the prior art cited alone or in combination provides the motivation to teach method comprising the steps of:

- checking whether or not transmission data is available;

- when no transmission data is available, using first, second, and third gain factors to weight signals from said first, second, and third transmission channels and decreasing a maximum transmission electric power at a plurality of levels based on a ratio between said second and third gain factors; and

- when transmission data is available, decreasing a maximum transmission electric power at a plurality of levels based on said second gain factor and a ratio between said second and third gain factors.

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Regarding claims 11 and 12, Lee teaches a transmission electric power control apparatus for controlling a maximum transmission electric power during transmission of a plurality of signals in a code-multiplexing fashion (Paragraph 0102), said apparatus comprising:

first spreading means (Figure 4, element 401) for providing a first spreading process to signals from a first transmission channel (Figure 4, DPDCH) to transmit data, a second transmission channel (DPCCH) to transmit main control information (Figure 4, a second transmission channel DPCCH to transmit main control information to second spreading means 415), and a third transmission channel (HS-DPCCH) to transmit additional control information (Figure 4, a third transmission channel HS-DPCCH to transmit additional control information to third spreading means 417);

weighting means (Figure 4, elements 402, 416, and 418) for weighting signals from said first, second, and third transmission channels after said first spreading process with first, second, and third gain factors, respectively;

complex mapping means (Figure 4, element 414) for complex-mapping said weighted signals from channels;

second spreading means (Figure 4, element 421) for providing a second spreading process to output from said complex mapping means;

Kurihara teaches a filter (Figure 7, element 40) for limiting a band for output from said second spreading means (Figure 7, element 30; Col 1, lines 23-62);

digital-analog conversion means for converting output from said filter into an analog signal (Figure 7, element 41);

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modulation means (Figure 7, element 50) for providing a specified modulation process to output from said digital-analog conversion means;

automatic gain control means (Figure 7, element 6) for controlling an amplification gain with respect to output from said modulation means (Col 8, line 58-col 10, line 12: Kurihara teaches an AGC amplifier 6 serving as a amplifying means for amplifying the HPSK signal output from the quadrature modulator 50 with a gain based on a control voltage and outputting the amplified signal);

electric power amplification means for electrically amplifying output from said automatic gain control means (Col 8, line 58-col 10, line 12: Kurihara teaches an AGC amplifier 6 serving as a amplifying means for amplifying the HPSK signal output from the quadrature modulator 50 with a gain based on a control voltage and outputting the amplified signal).

However, none of the prior art cited alone or in combination provides the motivation to teach main control means for using when first, second, and third gain factors to weight signals from said first, second, and third transmission channels and decreasing a maximum transmission electric power at a plurality of levels based on a ratio between said first and second gain factors and a ratio between said second and third gain factors.

Regarding claims 2,3,5,6,7,10,13,16, and 17, the claims are allowed as being dependent of claims 1,4, and 11, respectively.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fukumoto et al. (US Patent #6,833,770) teaches CDMA modulation method and apparatus are provided, which can be operated on a reduced gate scale with reduced power consumption.

Iida (US Patent Application Publication #2002/0021744) teaches CDMA spreading method and CDMA terminal apparatus.

Willenegger (US Patent #7,003,269) teaches method and apparatus for a dedicated physical channel in wireless communication system.

Liu (US Patent Application Publication #2005/0068990) teaches method of aligning physical channel for uplink transmission.

Liu (US Patent Application Publication #2005/0068921) teaches multiplexing of physical channels on the uplink.

Nishio (US Patent Application Publication #2005/0186981) teaches outer loop transmission power control method and radio communication device.

Malladi et al. (US Patent #6,850,771) teaches uplink power control.

Takano et al. (US Patent Application Publication #2005/0277419) teaches cellular system, base station, mobile station, and communication control method.

Gopalakrishnan et al. (US Patent Application Publication #2004/0085936) teaches high speed dedicated physical control channel for use in wireless data transmission for mobile device.

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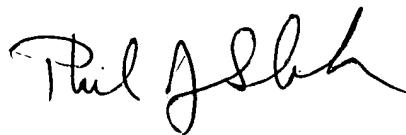
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dominic E. Rego whose telephone number is 571-272-8132. The examiner can normally be reached on Monday-Friday, 8:30 am-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dominic E. Rego



3/9/02

PHILIP J. SOBUTKA
PATENT EXAMINER